Assessment of performance of single-input-single-output loops using spectral methods
♦ Motivational introduction to control loop performance assessment from industrial case studies.
♦ Control loop performance evaluation and diagnosis via spectral analysis of data.

Plant-wide disturbance and root-cause diagnosis:
♦ Plant wide disturbances: A faulty control loop can cause widespread process disturbance. Industrial examples will be presented to motivate the detection of plant-wide disturbances and diagnosis of the root cause.
♦ Detection of plant wide disturbances: Techniques will be presented to detect measurements at various places in a plant which are influenced by the same process disturbance. Both oscillating and non-oscillating plant-wide disturbances will be covered.
♦ Diagnosis of plant wide disturbances: A published case study with Eastman Chemicals will be presented showing how the root cause of a plant-wide disturbance was isolated.

Materials to be provided:
♦ MATLAB™ programs together with data and step-by-step instructions to complete worked examples in SISO control loop performance assessment and diagnosis.
♦ Handouts of the presentation slides.